

What is claimed is:

1. A device for a variable-rate encoding system, comprising:

5 a judging unit judging whether a voice signal is a vowel when a voice part of a voice signal is sounded; and

a rate setting unit setting a voice encoding bit rate to a bit rate lower than the bit rate usually used  
10 when the voice part is sounded if the voice signal is a vowel.

2. The device according to claim 1, further comprising:

15 an LSP coefficient calculating unit calculating an LSP coefficient obtained from the voice signal; and  
an LSP interval judging unit judging whether an interval between the LSP coefficients is equal to or less than a prescribed threshold value.

20

3. The device according to claim 2, wherein if one or more obtained intervals between adjacent LSP coefficients does not move and exists within a prescribed range for a specific time period, the LSP  
25 interval judging unit judges that the voice signal is

a vowel.

4. The device according to claim 2, further comprising:

5 a template judging unit provided with a plurality of templates for registering LSP coefficients of a vowel, judging whether the LSP coefficient obtained from the voice signal is approximately equal to the LSP coefficient registered in the template, wherein if the  
10 template judging unit judges that the LSP coefficient obtained from the voice signal is approximately equal to the LSP coefficient registered in the template, the template judging unit lowers an encoding bit rate of the voice signal.

15

5. A rate control method for a variable-rate voice encoding system, comprising:

- (a) judging whether a voice signal is a vowel when a voice part of the voice signal is sounded; and  
20 (b) setting a voice encoding bit rate to a bit rate lower than the bit rate usually used when a voice part is sounded.

6. The method according to claim 5, further  
25 comprising:

(c) calculating an LSP coefficient obtained from the voice signal; and

(d) judging whether an interval between the LSP coefficients is equal to or less than a prescribed threshold value.

7. The method according to claim 6, wherein if one or more intervals between adjacent LSP coefficients obtained in step(d) do not move and exist within a prescribed range for a specific time period, it is judged that the voice signal is a vowel.

8. The method according to claim 6, further comprising:

(e) storing a plurality of templates for registering LSP coefficients of a vowel and judging whether the LSP coefficient obtained from the voice signal is approximately equal to the LSP coefficient registered in the template,

wherein if it is judged that the LSP coefficient obtained from the voice signal in step(e) is approximately equal to the LSP coefficient of the template, an encoding bit rate of the voice signal is lowered.

9. A computer-readable storage medium which records

a program for enabling a computer to implement a rate control method for a variable-rate voice encoding system, the process comprising:

- (a) judging whether a voice signal is a vowel when a voice part of the voice signal is sounded; and
- (b) setting a voice encoding bit rate to a bit rate lower than the bit rate usually used when the voice part is sounded.

10. The storage medium according to claim 9, the process further comprising:

- (c) calculating an LSP coefficient obtained from the voice signal; and
- (d) judging whether an interval between the LSP coefficients is equal to or less than a prescribed threshold value.

11. The storage medium according to claim 10, wherein if one or more intervals between adjacent LSP coefficients obtained in step (d) do not move and exist within a prescribed range for a specific time period, it is judged that the voice signal is a vowel.

12. The storage medium according to claim 10, further comprising:

- (e) storing a plurality of templates for registering LSP coefficients of a vowel and judging whether the LSP coefficient obtained from the voice signal is approximately equal to the LSP coefficient registered in the template,

wherein if it is judged that the LSP coefficient obtained from the voice signal in step (e) is approximately equal to the LSP coefficient of the template, an encoding bit rate of the voice signal is lowered.